

AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Previously presented) A method for production of plant storage lipids containing polyunsaturated fatty acids comprising providing an enzyme mixture containing at least one enzyme with phospholipid:diacylglycerol acyltransferase activity.
2. (Previously presented) The method of claim 1, wherein the enzyme mixture further contains at least one further activity of a hydroxylase, epoxigenase, acetylenase, desaturase, elongase, conjugase, trans-desaturase, isomerase or combination thereof.
3. (Previously presented) The method of claim 1, wherein the enzyme mixture further contains desaturase activity and elongase activity.
4. (Previously presented) The method of claim 1, wherein the polyunsaturated fatty acids comprise long-chain polyunsaturated fatty acids.
5. (Previously presented) The method of claim 1, wherein the polyunsaturated fatty acids comprise one or more of gamma-linolenic acid, arachidonic acid, gamma-linolenic acid, eicosapentaenoic acid, stearidonic acid or docosahexaenoic acid.
6. (Previously presented) The method of claim 1, wherein the at least one enzyme is encoded by a nucleotide sequence which is capable of replication, is present in a plant cell in at least 2 copies or contains regulatory sequences that bring about an at least 2-fold increase in gene expression or enzyme activity.
7. (Previously presented) The method of claim 6, wherein the nucleotide sequence is encoded chromosomally or extrachromosomally.
8. (Previously presented) The method of claim 6, wherein the nucleotide sequence is derived from plants.
9. (Previously presented) The method of claim 6, wherein the nucleotide sequence is derived from *Arabidopsis thaliana*.
10. (Previously presented) The method of claim 1, wherein the at least one enzyme comprises the amino acid sequence of SEQ ID No. 2.

11. (Previously presented) The method of claim 1, wherein the at least one enzyme or a part thereof is encoded by the nucleotide sequence of SEQ ID No. 1 or alleles thereof.
12. (Previously presented) The method of claim 1, wherein the polyunsaturated fatty acids contain fatty acids with conjugated double bonds.
13. (Previously presented) The method of claim 1, wherein the polyunsaturated fatty acids comprise fatty acids with a chain length of at least 14 carbon atoms and having at least 3 double bonds.
14. (Previously presented) The method of claim 1, wherein the polyunsaturated fatty acids comprise fatty acids not naturally found in plants.
15. (Currently amended) ~~A method for producing polyunsaturated acids from a plant comprising:~~ The method of claim 1, wherein the plant storage lipids containing polyunsaturated fatty acids are produced from a plant, wherein the method further comprises

increasing a phospholipid:diacylglycerol acyltransferase activity of said plant[[:]]
and isolating the polyunsaturated fatty acids.
16. (Currently amended) The method of claim 15, wherein increasing the phospholipid:diacylglycerol acyltransferase activity comprises increasing the copy number of a gene that encodes a phospholipid:diacylglycerol acyltransferase enzyme.
17. (Currently amended) The method of claim 15, wherein increasing the phospholipid:diacylglycerol acyltransferase activity comprises increasing the catalytic or regulatory activity of one or more enzymes involved in synthesis of fatty acids.
18. (Currently amended) The method of claim 15, wherein increasing the phospholipid:diacylglycerol acyltransferase activity comprising transforming said plant with a nucleotide sequence.
19. (Previously presented) The method of claim 18, wherein the nucleotide sequence comprises SEQ ID No. 1 or a homolog or allele thereof.
20. (Previously presented) The method of claim 19, wherein the homolog has a sequence which is at least 60% identical to said nucleotide sequence.